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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,960	07/17/2003	David F. Arlasky	7444 (284*3)	6054

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EXAMINER	
SAN MARTIN, EDGARDO	

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,960	ARLASKY, DAVID F.	
	Examiner	Art Unit	
	Edgardo San Martin	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *43,45-47,49,51,53,55,56,59 and 61-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *43,45-47,49,51,53,55,56,59 and 61-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

- The filed amendment add a new paragraph to the specification that will provide the specification with 2 paragraphs [0019];
- The amendment filed on May 23, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the original disclosure does not provide for the specific dimensions and dimensions relations between elements recited in new paragraph [0019], the disclosure is silent as to the filed drawings were made to scale.

Applicant is required to cancel the new matter in the reply to this Office Action.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 43, 45 – 47, 49, 51, 53, 55, 56, 59 and 61 – 66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 62, 63 and 66 contain subject matter describing specific dimensions and dimensions relationships between elements that are not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 43, 45 – 47, 49, 51, 53, 55, 56, 59 and 61 – 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (JP 04081507) in view of Weiss (US 4,263,981), and further in view of Ross (US 2,076,827).

With respect to claims 55, 62, 63 and 66, Nakamura teaches a muffler comprising a shell (Fig.3, Item 23) with an expansion chamber tube (Fig.3, Items 32 and 34) coaxially attached to the shell such that an interior of the shell and an exterior of the expansion chamber tube form a sound suppression sleeve containing sound

suppression material (Fig.3, Items 33 and 37), wherein an interior of the expansion chamber tube forms an expansion chamber (Fig.3, Item a), the expansion chamber tube is perforated with apertures (Fig.3, Items 31 and 35), such that the expansion chamber is in communication with the materials in the sound suppression sleeve, an inlet tube (Fig.3, Item 39) is attached to an inlet (Fig.3, Item 25) of the shell such that an inlet tube interior is in communication with the expansion chamber and a guide vane (Fig.3, Item 38) for generating a vortex flow which induce passage of exhaust gases through the expansion chamber to exit through the outlet (Fig.3. Item 27) (Fig.3, Abstract), but fails to disclose wherein the expansion chamber tube is perforated with apertures to achieve specifically about 40-80% porosity, and a rotatable propeller is attached to the muffler such that the propeller is capable of rotation when exhaust gas passes from the inlet tube into the expansion chamber, and wherein the propeller spins the exhaust gas to facilitate its passage through the expansion chamber, and through an outlet in the shell; and wherein the diameter of the chamber being not more than about 2.2 times the diameter of the inlet tube and the combine interior diameter dimensions of the inlet tube and the chamber are less than about a third of the length of the chamber.

Nevertheless, Weiss teaches an expansion chamber tube being perforated with apertures to achieve about 40-80% porosity (Col.3, Line 55 – Col.4, Line 10).

On the other hand, Ross teaches a muffler comprising a passage tube including a rotatable propeller (Fig.1, Item 14) being attached to the muffler such that the propeller is capable of rotation when exhaust gas passes from the inlet tube (Fig.1, Item 11) into the passage tube, and wherein the propeller spins the exhaust gas to facilitate

its passage through the expansion chamber, and through an outlet (Fig.1, Item 12) in the passage tube; wherein the gases freely exit the outlet tube without back pressure on the engine (Page 2, Lines 1 - 5).

Furthermore, the Examiner considers that it would have been an obvious matter of design choice to provide the Nakamura, Weiss and Ross design with dimensions providing a diameter of the chamber being not more than about 2.2 times the diameter of the inlet tube and the combine interior diameter dimensions of the inlet tube and the chamber are less than about a third of the length of the chamber, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233; in addition, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to place the Ross rotatable propeller in the inlet tube of the Nakamura expansion chamber, and to provide a 40-80% porosity in the tube as disclosed by the Weiss design because the complete combination would provide a muffler structure that would effectively suppress noise while increase the performance and efficiency of an engine, increasing the engine power and saving the fuel of an vehicle by eliminating back pressure effect.

With respect to claim 43, Ross teaches (regarding claim 44) wherein the propeller (Fig.1, Item 14) is mounted on a shoulder screw (Fig.1, Item 20) that is

rotatably mounted in a bearing (Fig.1, Item 21). Regarding claim 43, the Examiner considers that it would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the propeller on a bearing that is rotatably mounted on a shoulder screw, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70; and since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Einstein, 8 USPQ 167. In addition, the Examiner considers that it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a Teflon-filled bronze bearing, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With respect to claims 45, 46 and 59, Weiss et al. teach wherein the expansion tube has between about 75% to about 90% greater flow cross-sectional area than the inlet tube.

With respect to claim 47, Ross teaches the rotatable propeller type blade assembly comprising at least two blades (Fig.1).

With respect to claims 49, 56 and 65, Ross teaches the rotatable propeller's blades (Fig.1, Item 14) having a degree of inclination of the blade with respect to the path of flow (Page 1, Line 38+). In addition, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

With respect to claim 51, the Examiner takes Official Notice that it is well known in the art of acoustics to employ fiberglass, glass wool, copper wool, copper strands, steel wool and a combination of the mentioned materials as sound suppressing materials. These materials could withstand high temperatures while exhibiting good sound suppressing characteristics.

With respect to claim 52, Nakamura teaches wherein the exhaust chamber system is joined directly to an internal combustion engine, or wherein the exhaust chamber system is joined indirectly to an internal combustion engine (Fig.1).

With respect to claims 61 and 64, Nakamura and Ross teach wherein the rotation of the rotatable propeller forces the exhaust gases into a tightly spun vortex as the exhaust gases expand in the expansion chamber creating a vacuum to draw additional exhaust gases from the internal combustion engine (Nakamura: Fig.3, Abstract; Ross: Fig.1, Page 1, Line 38 – Page2, Line 5).

Response to Arguments

4. Applicant's arguments filed on May 23, 2006 have been fully considered but they are not persuasive. The Examiner considers that the obvious combination of the patents Nakamura, Weiss and Ross teach the limitations described in the claims as discussed above. The Examiner considers that the filed amendment to the Specification inappropriately introduce new matter that was not supported by the original disclosure, as discussed above.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martin whose telephone number is (571) 272-2074. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext.37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edgardo San Martín
Primary Examiner
Art Unit 2837
Class 181
July 27, 2006